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| 09/582,141      | 06/21/2000  | JORG HOFMANN         | MO5766/LEA3         | 1594             |

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| EXAMINER |
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WOOD, ELIZABETH D

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1755

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Please find below and/or attached an Office communication concerning this application or proceeding.



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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 09/582,141  
Filing Date: June 21, 2000  
Appellant(s): HOFMANN ET AL.

John E. Mrozinski, Jr.  
For Appellant

**MAILED**  
~~OCT 29 2004~~ Nov 1.04  
**GROUP 1700**

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed August 31, 2004.

**(1) *Real Party in Interest***

A statement identifying the real party in interest is contained in the brief.

**(2) *Related Appeals and Interferences***

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

The brief referred, however, only to **pending** appeals and the examiner considers that the previous appeal in this application has a bearing on the instant

proceeding. Accordingly, the examiner respectfully directs the attention of the Board to the previous decision in this application, Appeal No. 2003-0409.

**(3) Status of Claims**

The statement of the status of the claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is substantially correct. No amendment after final was filed, only a request for reconsideration.

**(5) Summary of Invention**

The summary of invention contained in the brief is correct.

**(6) Issues**

The appellant's statement of the issues in the brief is correct.

**(7) Grouping of Claims**

Appellant's brief includes a statement that claims 1-7, 9 and 10 stand or fall together.

**(8) Claims Appealed**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(9) Prior Art of Record**

5,714,428

Le-Khac

2-1998

**(10) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Appellant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-7, 9 and 10 are rejected under 35 U.S.C. 103(a) as obvious over U.S. Patent No 5,714,428 to Le-Khac.

This application involves a double metal cyanide catalyst, method for the production thereof and method for the use thereof. The groups will be addressed together because it would appear that appellant considers the novelty of all embodiments of the invention to reside in the addition of a particular polycarbonate to the DMC catalyst composition.

Le-Khac discloses a DMC catalyst composition containing about 2 to about 80% of a functionalized polymer. The polymer can be a polycarbonate. This is substantially representative of the invention as claimed in the instant application. See particularly columns 4 and 5.

The Le-Khac disclosure differs from the instant claims in that the appealed claims require the polycarbonate to have hydroxyl end groups, the measurement of which determines the polymer to have a molecular weight below 12,000. This disclosure differs from the instant claims in the failure to recite exactly the specifically claimed molecular weight range of below 12,000. However, the claims would have been obvious because Le-Khac discloses that his functionalized polymer may be a polycarbonate and the molecular weight of his functionalized polymer can vary between 500 and 50,000, which overlaps with the "below 12,000" claimed herein. Furthermore, the reference teaches a species of polycarbonate considered to fall directly within the claimed limitations, i.e. poly (1,6-hexanediol carbonate).

Regarding methods of making the composition and methods of using the composition, they are well known as admitted by appellant in the specification and fairly

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shown by the prior art of record. Accordingly, there is nothing unobvious in the method steps.

Any minor differences in the limitations of the dependent claims have been considered. This statement is meant to include limitations such as preferred amounts of catalytic components which skilled artisans would be expected to optimize based upon the desired performance of the catalyst.

Furthermore, any such differences are deemed to be result-effective variables that one of ordinary skill in the art would be expected to manipulate to advantage. Additionally, such limitations can be considered to have been simply known as conventional to the artisan practicing in the art at the time the invention was made and/or were common practices which were so well known in the art that they would have been taken for granted.

If appellant believes that one or more limitations are critical to the invention, then applicant should amend the claims to reflect such critical limitations as well as indicate where in the specification such critical limitations were discussed and demonstrated.

The limitations of all claims have been considered and are deemed to be within the purview of the prior art.

#### **(11) Response to Argument**

The examiner considers that appellants' arguments can be summarized by the following questions:

- 1) Would the skilled artisan find the requisite motivation within the Le-Khac

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document to select the claimed polycarbonate having the claimed molecular weight in the claimed amount as a component of a DMC containing catalyst?

2) Would this selection be based upon "unguided conjecture" as asserted by appellants since Le-Khac discloses such a large genus and does not specifically recite a polycarbonate having the herein claimed molecular weight?

3) Assuming arguendo that 1 and 2 above are correct, do the unexpected results found in the instant specification overcome the prima facie case of obviousness set forth hereinabove?

The examiner will consider the above questions in the same order as summarized above:

1) The Le-Khac disclosure itself provides the motivation for the selection of a polycarbonate in an amount of 2 to 80 weight percent. The Le-Khac disclosure specifically recites use of a polycarbonate component in line 1 of column 5 and the carbonate is one of only nine polymers being recited as "preferred catalysts of the invention". The Le-Khac disclosure also teaches the polymer to be used in an amount of about 2 to about 80 weight percent, the same amount being claimed in the instant application. Finally, at column 5, lines 19-23, Le-Khac discloses that the functionalized polymers employed in the invention should have a molecular weight in the range of 300 to 500,000, more preferably from 500-about 50,000. The reference itself teaches that the lower molecular weight polymers are preferred and the specifically stated end-points are clearly within the claimed range of below 12,000, and in the lower molecular weight

spectrum of the broadly disclosed range of the reference. Accordingly, the reference disclosure is considered to provide the requisite motivation for selection of a polycarbonate having the claimed molecular weight as a component in a DMC containing catalyst.

The examiner notes that the appellants continue to request "help" regarding their inability to determine which portions of the Le-Khac disclosure the examiner believes disclose the claimed features of the invention. The appellant states that the examiner merely questioned the need for such assistance, but provided none. This is incorrect. The examiner pointed out in the Advisory Action that she did not understand why applicants need such assistance in view of the examiner's specific referral to the relevant portions of the Le-Khac document. The examiner furthermore **provided additional** assistance with the following statement:

**The examiner has already referenced columns 4 and 5 of Le-Khac in Paper No. 18. Regarding the molecular weight, line 46 of column 4 indicates "n" as preferably between 10 and 500 which clearly indicates that the lower molecular weight polymers are preferred. Regarding the motivation to select these components from among many, applicants' arguments are precisely the same as those addressed in the Board's decision of April 23, 2003. There is nothing unobvious in selecting one from many as long as the reference teaches all to be suitable for their purpose. Since the reference discloses polycarbonates as preferred and teaches the lower end of the broad molecular weight range to be**



**preferred, the prior art has also effectively provided motivation for selection of lower molecular weight polycarbonate.**

In view of the foregoing, the examiner provided all of the assistance that could reasonably be expected.

2) The position of appellant can apparently be summarized as follows:

The appellant apparently considers that because the reference discloses such a large genus of polymers and such a large distribution of molecular weights, the examiner's selection of a polycarbonate having molecular weight lower than 12,000 can only be based upon "unguided conjecture".

This position is not convincing to the examiner. It is well settled that there is nothing unobvious in picking one from among many so long as the reference teaches all to be suitable for their desired purpose and there is a reasonable expectation of success in the selection of the particular component. Appellant cites *In re Jones* in an attempt to refute this position, but such is not convincing. A reference is valid for all that it discloses and Le-Khac specifically recites a polycarbonate as a preferred functionalized polymer. Appellant appears to object that the reference teaches "only polycarbonates", but it should be noted that appellants' own claims recite no more than an "aliphatic polycarbonate", and, as pointed out above in the rejection itself, a **particular species** disclosed by the reference at column 5, line 6, is poly(1,6-hexanediol carbonate) which reads directly on the claimed species. Le-Khac further teaches that the functionalized polymer employed can have a very wide distribution of


molecular weights, but teaches the lower end of this range to be preferred. Accordingly, Le-Khac has effectively taught this species to be effective within the broad genus; in fact, Le-Khac has actually taught the herein claimed species to be one of the more **preferred** in the broadly disclosed genus. The examiner considers that the prior art has effectively provided motivation for selection of the particularly claimed polycarbonate.

3) The unexpected results in the specification have been carefully considered. The examiner notes that in the examples presented in the specification, the polycarbonate containing DMC catalyst shows a substantially decreased induction period compared to a polypropylene glycol containing DMC catalyst. However, this data is not sufficient for a determination that the claimed molecular weight of the polycarbonate has any bearing on the obtained result. The examples simply state "with polycarbonate" or "without polycarbonate" and do not elaborate on the identity, characteristics or source of the polycarbonate being employed. Moreover, this is not considered to be a showing against the **closest prior art of record**. The closest prior art is the Le-Khac document being relied upon for the rejection. Accordingly, a showing against one of the other "preferred catalysts" of the Le-Khac document would have significantly more probative value than a showing against polypropylene glycol which is **not** one of the preferred components in the catalysts of the closest prior art of record. As a result, the examiner maintains the position that the evidence of obviousness outweighs the evidence of unexpected results set forth in the examples of the instant specification.

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For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,



Elizabeth D. Wood


Primary Examiner

Art Unit 1755

edw

October 26, 2004

Conferees

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